

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KLAUS SCHMIDT

Appeal No. 97-0894
Application 08/069,931¹

ON BRIEF

Before THOMAS, FLEMING and TORCZON, Administrative Patent Judges.
THOMAS, Administrative Patent Judge.

DECISION ON APPEAL

Appellant has appealed to the Board from the examiner's final rejection of claims 1, 3, 4, 7 and 10, after having canceled claim 2. The examiner has objected to claims 5, 6, 8 and 9, but page 2 of the final rejection indicates that they would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

¹ Application for patent filed May 28, 1993.

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Representative claim 1 is reproduced below:

1. A measurement device for producing an electrical measurement signal from an object without contacting the object physically, said measurement device comprising a one-piece injection molded magnetizable plastic part, said plastic part including a magnetizable plastic coil body, and at least one coil arranged on the magnetizable plastic coil body and through which an electric current flows during production of the electrical measurement signal.

The following references are relied on by the examiner:

Tomczak et al. (Tomczak)	4,024,484	May 17, 1977
Anderson	4,256,986	Mar. 17, 1981
Mueller et al. (Mueller)	5,239,204	Aug. 24, 1993
		(filed Feb. 5, 1991)

Claims 1, 3, 4, 7 and 10 stand rejected under 35 U.S.C.

§ 103. As evidence of obviousness, the examiner relies upon the collective teachings of Tomczak in view of Mueller and Anderson.

Rather than repeat the positions of the appellant and the examiner, reference is made to the brief and the answer for the respective details thereof.

OPINION

As embellished here, we sustain the prior art rejection of all claims on appeal for the reasons generally set forth by the examiner in the statement of the rejection at page 3 of the answer.

Generally speaking, appellant has collectively considered the teachings of Tomczak and Mueller together but considered the teachings of Anderson separately. Thus, appellant has failed to consider collectively the teachings of the three references relied upon by the examiner. Moreover, appellant's analytical approach is to initially argue against the rejection of comparatively detailed independent claim 7 first and then the features of dependent claims 3 and 4, which depend from separate independent claim 1. Dependent claim 10 is not argued.

Appellant's arguments recognize that Tomczak's coil body or bobbin 52 is plastic and of one-piece construction. Contrary to that which is argued by appellant, Tomczak's device does not contact physically the object to be measured, which is the vacuum entering through nipple 50 for operation within the vacuum chamber 24 to the left of Figure 2. Although the examiner correctly recognizes that the molded plastic bobbin 52 is not specifically taught to be injection molded, Tomczak is merely silent as to the method of manufacturing this bobbin. However, the enclosure 60, also a molded plastic element which encloses the bobbin 52 in Figure 2, is taught at column 3, lines 25 to 27 to be injection-molded around the coil 54 and its bobbin 52.

Thus, such a manufacturing approach would have been obviously suggested to the artisan to use to manufacture the bobbin 52.

The examiner's position also correctly recognizes that Tomczak fails to disclose that the plastic bobbin 52 is filled with a weakly magnetizable material. As evidence of obviousness in the art, the examiner points to Mueller as suggesting such in the fabrication of his electronic proximity switch coil bobbin 29, which is taught to be made out of synthetic resin. As indicated at the end of the abstract in this reference, in the paragraph bridging columns 1 and 2, as well as in the paragraph bridging columns 3 and 4, the examiner notes that the teaching at these locations is to enrich the synthetic resin formed coil bobbin 29 with a "pulverulent permeable material 34" in Figure 5 "whereby the inductance of the resonant circuit coil 16 is increased."

It is this approach which allows Mueller's invention to fulfill the manufacturing advantages of the invention as set forth beginning at column 2, line 3 of Mueller. As such, we agree with the examiner's observation that it would have been obvious for the artisan to have utilized this manufacturing technique in Mueller to manufacture the coil body/bobbin 52 in Tomczak.

The examiner's further reliance upon Anderson further buttresses the same conclusion. This can be seen by study of the embodiments in Figures 3 and 4 in Anderson which show the magnetic sleeve 31 in Figure 3 and the magnetic sleeve 41 in Figure 4. Magnetic sleeve 31 is of one-piece construction and has one end formed as a coil bobbin. The coil 46 in the Figure 4 embodiment is molded within the magnetic sleeve 41. The discussion in columns 2 through 4 of this reference indicates that the magnetic sleeve/coil bobbin is formed by injection molding techniques into which magnetic materials have been placed, which are clearly magnetizable.

In view of this complete analysis of the three references relied upon by the examiner, we agree with the examiner's conclusion that the subject matter of independent claim 1 on appeal would have been obvious to the artisan within 35 U.S.C. § 103. To the extent broadly recited in dependent claim 3 on appeal, the electrical terminals 56, 58 in Tomczak's single-piece molded plastic bobbin 52 would, as argued by the examiner, are "mounted" in the bobbin 52. Additional teachings as to mounting elements apply to the threaded face 39 in the Figure 3 embodiment of Anderson in addition to the flange areas 30, 31 in Figure 5 of Mueller which are stated at column 4, lines 7 and 8

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to function as mounting means. Finally, as to dependent claim 4, the teachings in Anderson indicate that the thermoplastic binder/resin is a polyamide resin filled with a magnetizable material as indicated at column 4, lines 18 to 20.

Both independent claims 1 and 7 contain the open-ended term "comprising" at the end of the preamble which clearly indicates that other elements than those recited in the body of the claim may be encompassed within the teachings of the references relied upon by the examiner. The "included" and "consisting of" language of independent claims 1 and 7 on appeal are met by the reasoning advanced by the examiner, as embellished above.

From the collective teachings of the references it may be seen that each of them function passively, in a non-contact manner, and contain overlapping, common teachings of measurement devices which produce an electric current output as a measurement signal. Each of them also in some manner teaches some form of coil bobbin/body of single-piece construction to which is attached a coil for achieving this measurement purpose associated with magnetic principles. Tomczak does not specifically teach, but clearly suggests that the bobbin 52 in this reference may be made by injection molding. This feature is, however, specifically taught in Anderson and would have been clearly

applicable to the manufacturing of the synthetic resin in Mueller. These later two references both teach the plastic substance of which the coil bobbin/body is made and each of these references includes a magnetizable material, where Mueller specifically teaches that the material is impregnated within the plastic resin body to increase the inductance of an associated electric coil. The magnetic material within each of Mueller and Anderson is clearly "magnetizable" within the context of the claims on appeal and is specifically taught to be magnetized in the latter portions of column 4 of Anderson during its manufacturing process. During use, it is apparent that the artisan would have appreciated from the mere use of the coil being activated in the claims on appeal by a current flowing therethrough that the magnetizable material would have been magnetized. Finally, each of the references teaches in some manner the claimed mounting element.

The references relied upon clearly show the same or similar features, used in the same manner and for the same purpose. In re Gorman, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991).

Turning to appellant's arguments, we note that the test for obviousness is not whether the features of the secondary

reference may be bodily incorporated into the structure of the primary reference, and it is not that the claimed invention must be expressly suggested in any one or all of the references. Rather the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). Note also In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991). The above-noted case law clearly addresses the essence of appellant's arguments and argumentative approaches and the earlier noted consideration of the prior art addresses many of the specific arguments raised by appellant. It is thus apparent that the examiner has not exercised prohibitive hindsight in relying upon the three prior art references as the basis for the rejection of the claims on appeal, and the examiner's reasoning as well as our own embellished analysis indicate an ample motivation or desirability from an artisan's perspective to have combined the teachings of the respective references to have arrived at the claimed invention. Combining teachings of references does not involve an ability to combine their specific structures. In re Nievelt, 482 F.2d 965, 968, 179 USPQ 224, 226 (CCPA 1973).

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As to those arguments raised but not specifically addressed earlier in this opinion, we note that Mueller's coil bobbin 29 in Figure 5 is of one-piece construction even though it contains within it the magnetic band 33 as a molded part. To follow appellant's reasoning, the magnetizable particles within his own disclosed and claimed invention would not have made the coil body/bobbin one-piece.

In view of the foregoing, the decision of the examiner rejecting claims 1, 3, 4, 7 and 10 under 35 U.S.C. § 103 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

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JAMES D. THOMAS)	
Administrative Patent Judge)	
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)	
MICHAEL R. FLEMING)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
RICHARD TORCZON)	
Administrative Patent Judge)	

Striker, Striker & Stenby
360 Lexington Avenue
New York, NY 10017

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JDT/cam